National Aeronautics and Space Administration

NASA

Portland State UNIVERSITY

ISS Research Design Challenge

Capillary Effects on Liquids Exploratory Research Experiments (CELERE)

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WHAT?

- Joint program of NASA and Portland State University (PSU) enabling youth to participate in microgravity research on capillary action like that conducted on the International Space Station (ISS) as shown in the photo above
- Youth design their own experiments using Computer-Aided Design (CAD) and submit the drawings to NASA
- Test cells are fabricated using the submitted drawings and a computer-controlled laser cutter
- Experiments are conducted in microgravity via PSU's 2.1-second Dryden Drop Tower
- Results are provided online for student analysis and reporting, for example, as an extra credit or science fair project

WHO?

- Teams or individuals in grades 8 to 12 (where teams can include some younger members)
- U.S. only, but including all 50 states, the District of Columbia, Puerto Rico, American Samoa, Guam, the Northern Mariana Islands, the U.S. Virgin Islands, and all DODEA schools (for the children of U.S. military personnel)

Microgravity Man challenges YOU to design your own experiment!

WHEN?

- Entries are due by February 1, March 1, or April 1—but the odds of selection diminish from month to month
- Experiments are typically conducted within a month of the selected deadline

WHERE?

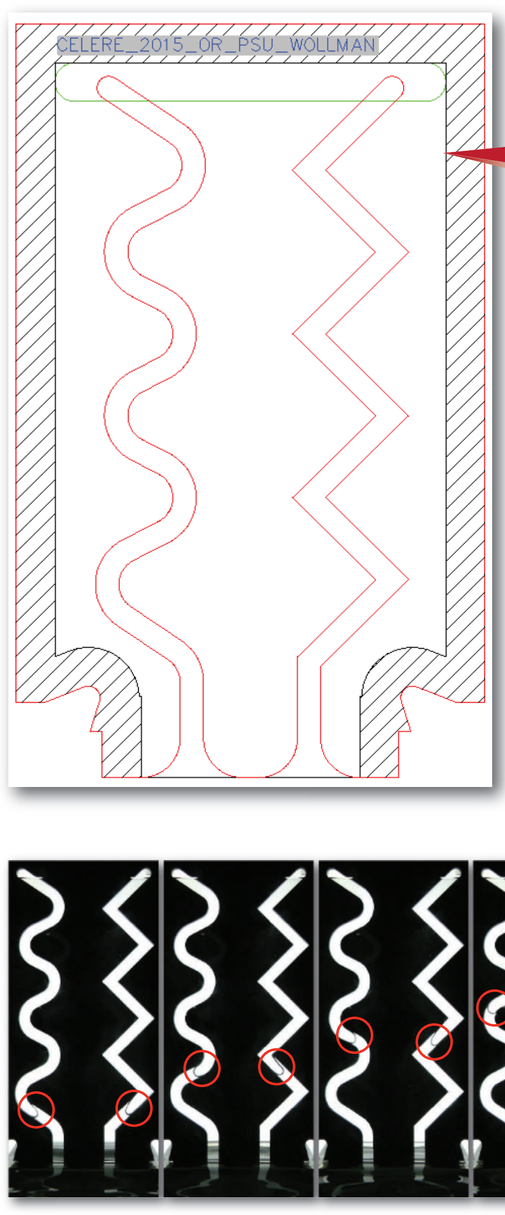
- Participation is remote
- Participants can interact with NASA by e-mail, teleconferencing, or video conferencing

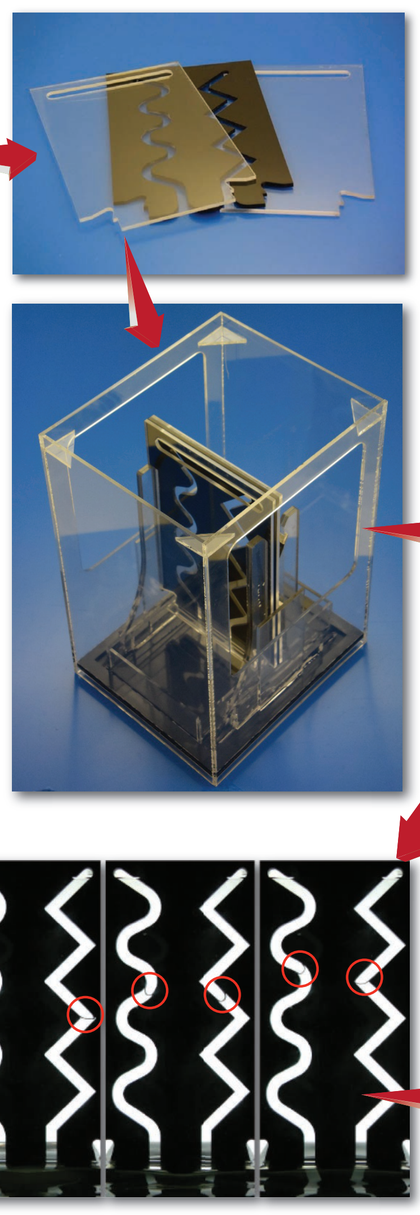
WHY?

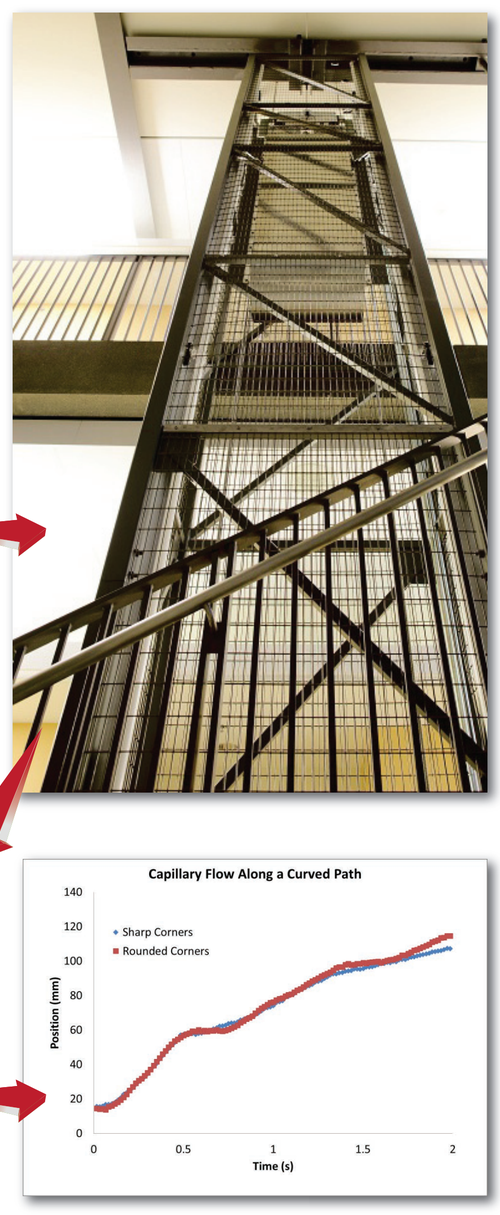
- To learn about CAD and space station science
- To inspire STEM careers, where STEM is Science, Technology, Engineering, and Mathematics
- To enhance college applications

SELECTION?

- 100% of the entries received thus far have been fabricated and tested
- Guaranteed selection of at least one qualifying entry from each state, etc. listed in 'WHO?'

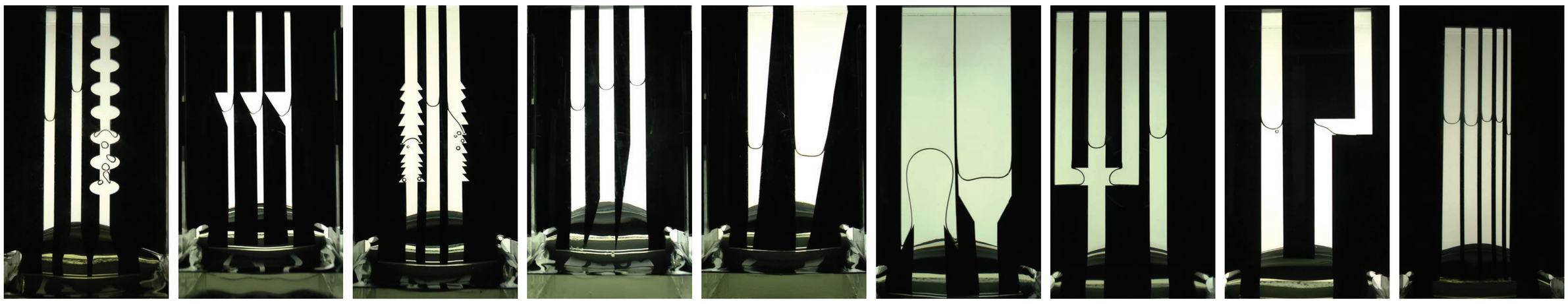






LEARN MORE

Visit http://spaceflightsystems.grc.nasa.gov/CELERE or e-mail celere@lists.nasa.gov.



Example experiments depicted at approximately halfway through the 2.1-second drop.

www.nasa.gov
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